

FIGURE 1

gagcccaa	attgtgaca	aactcacaca	tgccaccgt	gccagcacc	tgaactcctg	60
gggggaccgt	cagtcttct	cttcccccca	aaaccaagg	acacctcat	gatctcccg	120
accctgagg	tcacatgcgt	gggtgtggac	gtgagccacg	aagacctga	ggtcaagttc	180
aactggtacg	tggacggcgt	ggaggtgcat	aatgttaaga	caaagccgcg	ggaggagcag	240
tacaacagca	cgtaccgtgt	ggtcagcgtc	ctcaccgtcc	tgcaccagaa	ctggatgaat	300
ggaaaggagt	acaagtgcaa	ggtctccaac	aaagccctcc	cagccccat	cgagaaaacc	360
atctccaaag	caaagtgca	gccccgagaa	ccacagggtg	acacctgcc	ccatcccg	420
gatgagctga	ccaagaacca	ggtcagcctg	acctgcctgg	tcaaaggctt	ctatcccagc	480
gacatcgccg	tggagtggga	gagcaatggg	cagccggaga	acaactacaa	gaccacgcct	540
cccggtctgg	actccgtcgg	ctcttcttc	ctctacagca	agctcaccgt	ggacaagagc	600
aggtggcagc	aggggaacgt	cttctcatgc	tccgtgatgc	atgaggctct	gcacaaccac	660
taccagcaga	ggagcctctc	cctgtctccg	ggtaaa			696

Sequence

FIGURE 2

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys
 Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys
 Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
 Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro
 Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 Tyr Val Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu
 Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 His Gln Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val
 Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu
 Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
 Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser Phe Phe
 Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Gln
 Gln Arg Ser Leu Ser Leu Ser Pro Gly Lys

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FIGURE 3

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu Glu Gln
Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val Gln Pro
Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser Phe Phe Leu Tyr
Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Gln Gln Arg
Ser Leu Ser Leu Ser Pro Gly Lys

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Ser	Thr	Gln	Ser	Pro	Ser	Val	Phe	Pro	Leu	Thr	Arg	Cys	Cys	Lys	Asn
Ile	Pro	Ser	Asn	Ala	Thr	Ser	Val	Thr	Leu	Gly	Cys	Leu	Ala	Thr	Gly
Tyr	Phe	Pro	Glu	Pro	Val	Met	Val	Thr	Trp	Asp	Thr	Gly	Ser	Leu	Asn
Gly	Thr	Thr	Met	Thr	Leu	Pro	Ala	Thr	Thr	Leu	Thr	Leu	Ser	Gly	His
Tyr	Ala	Thr	Ile	Ser	Leu	Leu	Thr	Val	Ser	Gly	Ala	Trp	Ala	Lys	Gln
Met	Phe	Thr	Cys	Arg	Val	Ala	His	Thr	Pro	Ser	Ser	Thr	Asp	Trp	Val
Asp	Asn	Lys	Thr	Phe	Ser	Val	Cys	Ser	Arg	Asp	Phe	Thr	Pro	Pro	Thr
Val	Lys	Ile	Leu	Gln	Ser	Ser	Cys	Asp	Gly	Gly	Gly	His	Phe	Pro	Pro
Thr	Ile	Gln	Leu	Leu	Cys	Leu	Val	Ser	Gly	Tyr	Thr	Pro	Gly	Thr	Ile
Asn	Ile	Thr	Trp	Leu	Glu	Asp	Gly	Gln	Val	Met	Asp	Val	Asp	Leu	Ser
Thr	Ala	Ser	Thr	Thr	Gln	Glu	Gly	Glu	Leu	Ala	Ser	Thr	Gln	Ser	Glu
Leu	Thr	Leu	Ser	Gln	Lys	His	Trp	Leu	Ser	Asp	Arg	Thr	Tyr	Thr	Cys
Gln	Val	Thr	Tyr	Gln	Gly	His	Thr	Phe	Glu	Asp	Ser	Thr	Lys	Lys	Cys
Ala	Asp	Ser	Asn	Pro	Arg	Gly	Val	Ser	Ala	Tyr	Leu	Ser	Arg	Pro	Ser
Pro	Phe	Asp	Leu	Phe	Ile	Arg	Lys	Ser	Pro	Thr	Ile	Thr	Cys	Leu	Val
Val	Asp	Leu	Ala	Pro	Ser	Lys	Gly	Thr	Val	Asn	Leu	Thr	Trp	Ser	Arg
Ala	Ser	Gly	Lys	Pro	Val	Asn	His	Ser	Thr	Arg	Lys	Glu	Glu	Lys	Gln
Arg	Asn	Gly	Thr	Leu	Thr	Val	Thr	Ser	Thr	Leu	Pro	Val	Gly	Thr	Arg
Asp	Trp	Ile	Glu	Gly	Glu	Thr	Tyr	Gln	Cys	Arg	Val	Thr	His	Pro	His
Leu	Pro	Arg	Ala	Leu	Met	Arg	Ser	Thr	Thr	Lys	Thr	Ser	Gly	Pro	Arg
Ala	Ala	Pro	Glu	Val	Tyr	Ala	Phe	Ala	Thr	Pro	Glu	Trp	Pro	Gly	Ser
Arg	Asp	Lys	Arg	Thr	Leu	Ala	Cys	Leu	Ile	Gln	Asn	Phe	Met	Pro	Glu
Asp	Ile	Ser	Val	Gln	Trp	Leu	His	Asn	Glu	Val	Gln	Leu	Pro	Asp	Ala
Arg	His	Ser	Thr	Thr	Gln	Pro	Arg	Lys	Thr	Lys	Gly	Ser	Gly	Phe	Phe
Val	Phe	Ser	Arg	Leu	Glu	Val	Thr	Arg	Ala	Glu	Trp	Glu	Gln	Lys	Asp
Glu	Phe	Ile	Cys	Arg	Ala	Val	His	Glu	Ala	Ala	Ser	Pro	Ser	Gln	Thr
Val	Gln	Arg	Ala	Val	Ser	Val	Asn	Pro	Gly	Lys					

FIGURE 6

Phe Thr Pro Pro Thr Val Lys Ile Leu Gln Ser Ser Cys Asp Gly Gly
Gly His Phe Pro Pro Thr Ile Gln Leu Leu Cys Leu Val Ser Gly Tyr
Thr Pro Gly Thr Ile Asn Ile Thr Trp Leu Glu Asp Gly Gln Val Met
Asp Val Asp Leu Ser Thr Ala Ser Thr Thr Gln Glu Gly Glu Leu Ala
Ser Thr Gln Ser Glu Leu Thr Leu Ser Gln Lys His Trp Leu Ser Asp
Arg Thr Tyr Thr Cys Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp
Ser Thr Lys Lys Cys Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr
Leu Ser Arg Pro Ser Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro Thr
Ile Thr Cys Leu Val Val Asp Leu Ala Pro Ser Lys Gly Thr Val Asn
Leu Thr Trp Ser Arg Ala Ser Gly Lys Pro Val Asn His Ser Thr Arg
Lys Glu Glu Lys Gln Arg Asn Gly Thr Leu Thr Val Thr Ser Thr Leu
Pro Val Gly Thr Arg Asp Trp Ile Glu Gly Glu Thr Tyr Gln Cys Arg
Val Thr His Pro His Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys
Thr Ser Gly Pro Arg Ala Ala Pro Glu Val Tyr Ala Phe Ala Thr Pro
Glu Trp Pro Gly Ser Arg Asp Lys Arg Thr Leu Ala Cys Leu Ile Gln
Asn Phe Met Pro Glu Asp Ile Ser Val Gln Trp Leu His Asn Glu Val
Gln Leu Pro Asp Ala Arg His Ser Thr Thr Gln Pro Arg Lys Thr Lys
Gly Ser Gly Phe Phe Val Phe Ser Arg Leu Glu Val Thr Arg Ala Glu
Trp Glu Gln Lys Asp Glu Phe Ile Cys Arg Ala Val His Glu Ala Ala
Ser Pro Ser Gln Thr Val Gln Arg Ala Val Ser Val Asn Pro Gly Lys

Sequence

FIGURE 7

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
 Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro
 Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val
 Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val
 Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu Glu Gln
 Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln
 Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala
 Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val Gln Pro
 Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr
 Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser
 Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr
 Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser Phe Phe Leu Tyr
 Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe
 Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Gln Gln Arg
 Ser Leu Ser Leu Ser Pro Gly Lys Val Glu Gly Gly Gly Ser Gly
 Gly Gly Gly Ser Gly Gly Gly Gly Ser Phe Thr Pro Pro Thr Val Lys
 Ile Leu Gln Ser Ser Cys Asp Gly Gly Gly His Phe Pro Pro Thr Ile
 Gln Leu Leu Cys Leu Val Ser Gly Tyr Thr Pro Gly Thr Ile Asn Ile
 Thr Trp Leu Glu Asp Gly Gln Val Met Asp Val Asp Leu Ser Thr Ala
 Ser Thr Thr Gln Glu Gly Glu Leu Ala Ser Thr Gln Ser Glu Leu Thr
 Leu Ser Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Cys Gln Val
 Thr Tyr Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys Ala Asp
 Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu Ser Arg Pro Ser Pro Phe
 Asp Leu Phe Ile Arg Lys Ser Pro Thr Ile Thr Cys Leu Val Val Asp
 Leu Ala Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg Ala Ser
 Gly Lys Pro Val Asn His Ser Thr Arg Lys Glu Glu Lys Gln Arg Asn
 Gly Thr Leu Thr Val Thr Ser Thr Leu Pro Val Gly Thr Arg Asp Trp
 Ile Glu Gly Glu Thr Tyr Gln Cys Arg Val Thr His Pro His Leu Pro
 Arg Ala Leu Met Arg Ser Thr Thr Lys Thr Ser Gly Pro Arg Ala Ala
 Pro Glu Val Tyr Ala Phe Ala Thr Pro Glu Trp Pro Gly Ser Arg Asp
 Lys Arg Thr Leu Ala Cys Leu Ile Gln Asn Phe Met Pro Glu Asp Ile
 Ser Val Gln Trp Leu His Asn Glu Val Gln Leu Pro Asp Ala Arg His
 Ser Thr Thr Gln Pro Arg Lys Thr Lys Gly Ser Gly Phe Phe Val Phe
 Ser Arg Leu Glu Val Thr Arg Ala Glu Trp Glu Gln Lys Asp Glu Phe
 Ile Cys Arg Ala Val His Glu Ala Ala Ser Pro Ser Gln Thr Val Gln
 Arg Ala Val Ser Val Asn Pro Gly Lys

Dose-dependent inhibition of basophil histamine release using the fusion protein GE2 (\pm SEM; n=3 separate donors, each in duplicate)

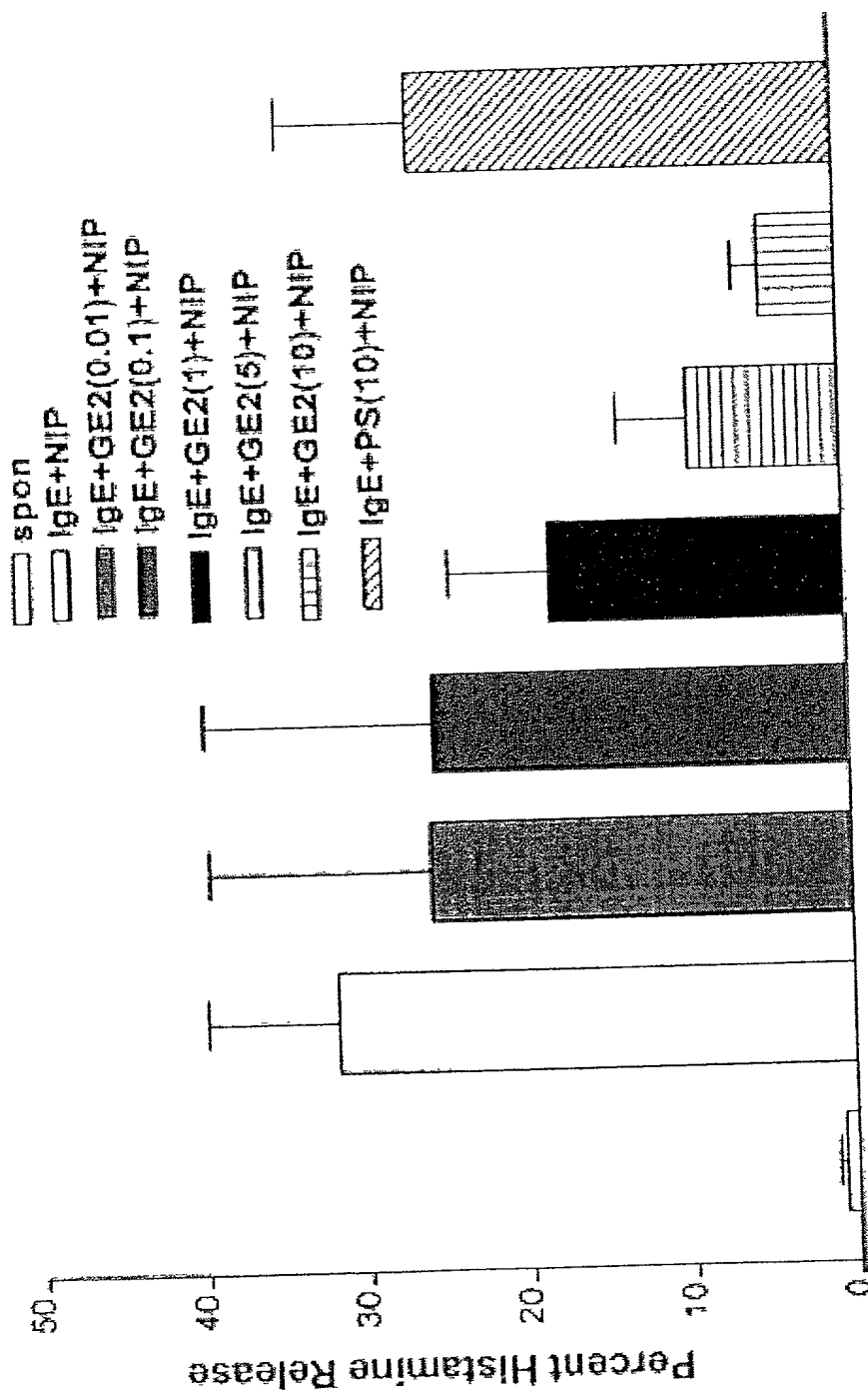
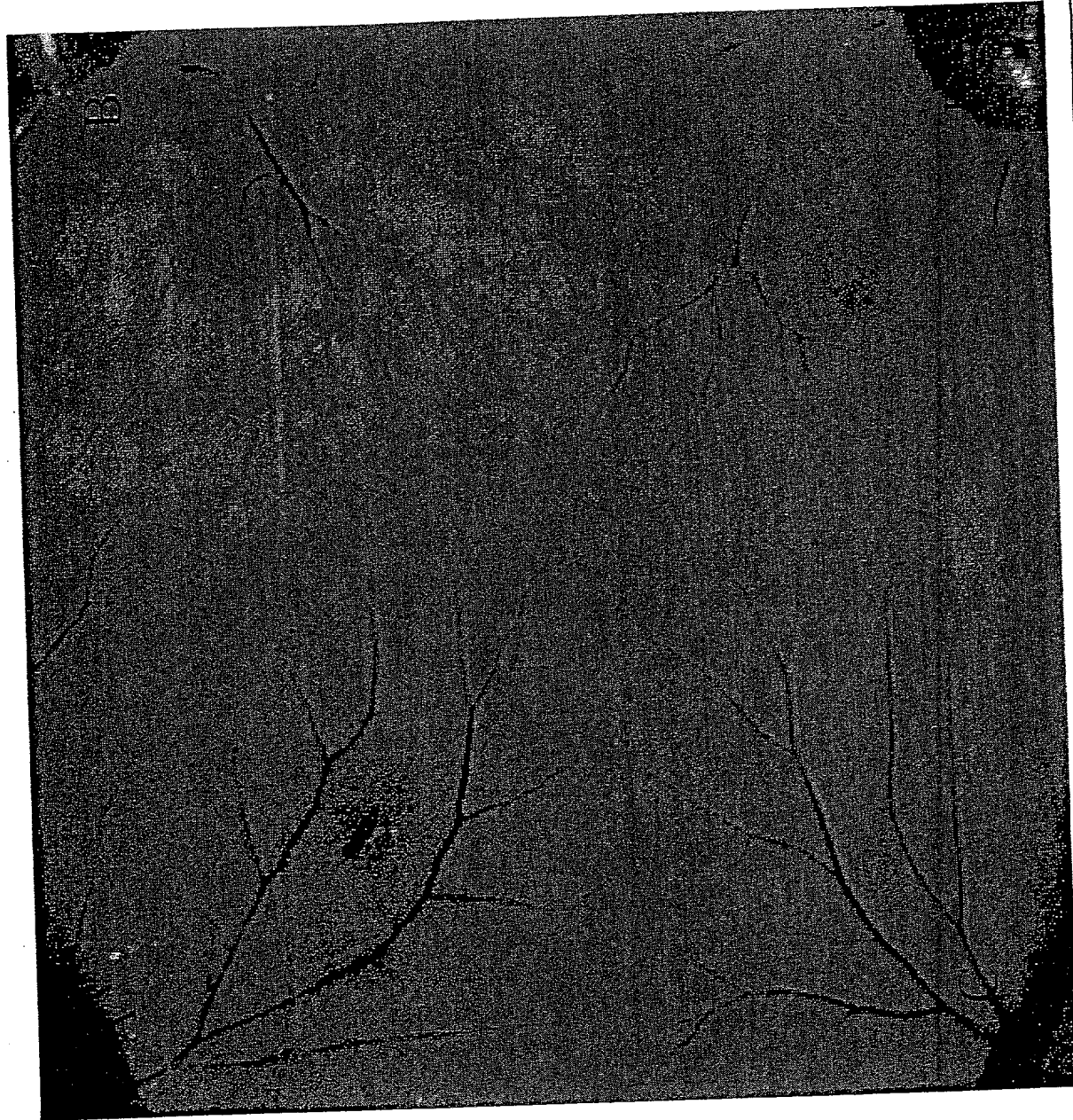


FIGURE 8

FIGURE 9-

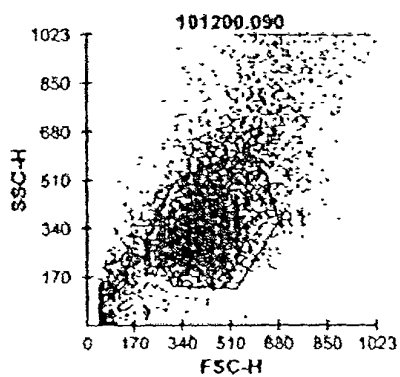


A: 250ng human IgE-anti NP	B: saline
C: 250ng human IgE-anti NP+250ng GE2	D: 250ng human IgE-anti NP+250ng PS IgE

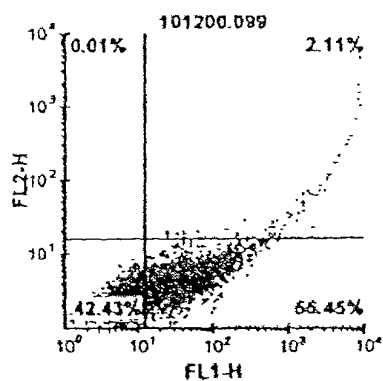
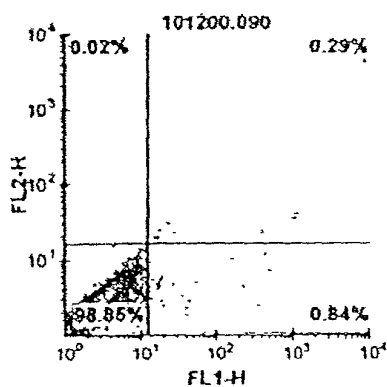
FIGURE 10

GE2 binding to HMC-1 cells that express
FcGR1b but not FcER1a

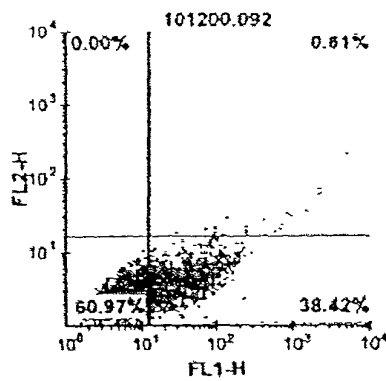
A. Cell gating



B. Control staining with
goat anti-human IgG



C. human IgG followed
by staining with goat anti-
human IgG

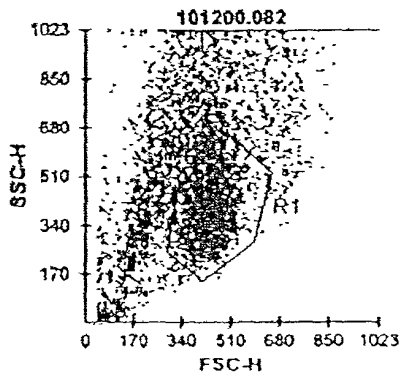


C. GE2 protein followed
by staining with goat anti-
human IgG

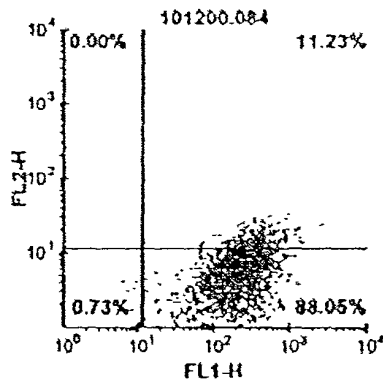
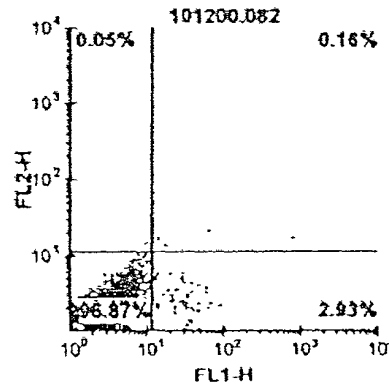
FIGURE 11

GE2 binding to 3D10 cells that express FcεRIa but not FcγRIIb

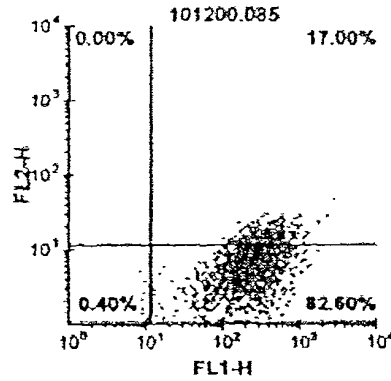
A. Cell gating on 3D10 cells which express FcεRIa but not EcGR~



B. Staining with goat anti-human IgE alone



C. human IgE myeloma followed by staining with goat anti-human IgE



D. GE2 followed by staining with goat anti-human IgE